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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/593,647	06/13/2000	LeRoy G. Hagenbuch	204559	7587

7590

05/19/2004

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EXAMINER

GARCIA OTERO, EDUARDO

ART UNIT

PAPER NUMBER

2123

DATE MAILED: 05/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/593,647

Applicant(s)

HAGENBUCH ET AL.

Examiner

Eduardo Garcia-Otero

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 June 2000 and 01 December 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION: Non-Final (first action on the merits)

Introduction

1. Title is: Process for three-dimensional modeling and design of off-highway dump bodies.
2. First named inventor is: Hagenbuch.
3. Claims 1-2 have been submitted, examined, and rejected.
4. Present application is Continuation in Part of 09/333,379 filed 6/15/99.

Index of Important Prior Art

5. **Hagenbuch'914** refers to US patent 5,887,914.
6. **Soczka** refers to US patent 5,815,960.
7. **Caterpillar release N149F** refers to Caterpillar Inc., Product Division, Field Representative Information Release, N149F "769 Series B Truck," 08/24/66.

35 USC § 112-Second Paragraph-indefinite claims

8. The following is a quotation of the second paragraph of 35 U.S.C. 112: The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
9. **Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite** for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
10. The claim 1 preamble terms "volumetric capacity" and "approximately ¼ or more" and "sidewalls are spaced relatively wider" are indefinite.
11. The claim 1 limitation 3 term "substantially minimizes the clearance... minimize splattering" is indefinite.
12. The claim 1 limitation 6 terms "minimizing the height" and "substantially off the center of the body" and "substantially greater height" are indefinite.

Claim Interpretation

13. **The claim language is interpreted in light of the specification.** Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

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14. The claim 1 preamble term "A method of loading material into a dump body of a truck using a loading bucket whose volumetric capacity is approximately 1/4 or more than that of the dump body, the dump body having sidewalls and a floor, where the sidewalls are spaced relatively wider than conventional dump bodies of similar volumetric capacity, and the loading bucket having a door at a lower end thereof that when free, swings open and allows the material contained in the loading bucket to drop into the dump body, the method comprising the steps of" is interpreted as merely intent, and not as an explicit limitation.

15. In the interests of compact prosecution, the preamble will be briefly discussed here in anticipation of potential claim amendments. *In re Rinehart*, 531 F.2d 1048, 1953, 189 USPQ 143, 148 (CCPA 1976) states "mere scaling up of a prior art process capable of being scaled up, if such were the case, would not establish patentability in a claim to an old process so scaled". See MPEP 2144.04(IV)(A). Thus, using a loading bucket with a slightly larger volumetric capacity than the dump body would not establish patentability, and spacing the sidewalls wider would not establish patentability. Such limitations would be considered routine expedients (scaling) which normally require only ordinary skill in the art according to the legal precedents from MPEP 2144.04. No novel or unexpected results would result from said routine expedients.

Claim Rejections - 35 USC § 103

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action: (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows: Determining the scope and contents of the prior art.

Ascertaining the differences between the prior art and the claims at issue. Resolving the level of ordinary skill in the pertinent art. Considering objective evidence present in the application indicating obviousness or nonobviousness.

18. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable.

19. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hagenbuch'914 in view of Soczka.

20. Independent claim 1 is a “method” claim with 6 limitations, numbered by the Examiner for clarity.

21. [1]-“**filling the loading bucket with an amount of earthen material**” is disclosed by Hagenbuch’914 column 2 line 9 “loading with a loading shovel”.

22. [2]-“**positioning the loading bucket over the dump body**” is disclosed by Hagenbuch’914 column 2 line 9 “loading with a loading shovel”.

23. Hagenbuch’914 does not expressly disclose the additional limitations.

24. [3]-“**lowering the bucket to a position that (a) substantially minimizes the clearance between the floor of the dump body and the swinging door in its freed position so as to minimize splattering of the material dropped as it drops from the bucket into the dump body, thereby reducing the impact force on the dump body caused by the dropping material**” is disclosed by Soczka FIG 1.

25. [4]-“**(b) allows the swinging door to clear the sidewalls of the dump body as it swings through an arc after it is freed**” is disclosed by Soczka FIG 1. Interestingly, if the loading shovel is relatively small in comparison to the truck, and if the loading material is relatively sticky, occasionally the loading operator may intentionally tap the loading shovel against

26. [5]-“**(c) allows the material to be discharged substantially in the center of the dump body so as to produce a more balanced load on the dump body**” disclosed by Soczka FIG 1, and also implicitly disclosed by Hagenbuch’914 column 4 line 4 “proximate center of gravity for a load assumed by the original equipment manufacturer”.

27. [6]-“**freeing the swinging door so as to open the bucket and allow the material held in the bucket to drop into the dump body, whereby the door swings open and clears both the sidewalls and the floor of the dump body while minimizing the height from which the material is dropped from the bucket, which is unlike the conventional dump bodies wherein the swinging door either collides with one of the sidewalls of the conventional dump body, drops the material from the bucket substantially off the center of the body or drops the material from a substantially greater height**” is disclosed by Soczka FIG 1. Note that if the loading shovel is relatively small in comparison to the dump truck, and if the loading material is relatively sticky (like snow), then a highly skilled loading operator may intentionally tap the loading shovel against the sides of the dump body to knock the sticky material loose and

into the dump body. However, such collisions are generally not desired. For example, in Soczka FIG 1, the loading bucket is very large in comparison to the dump truck, and apparently designed to load the dump truck with a single scoop. Thus, a collision with Soczka's large loading bucket may severely damage the truck in a single collision (especially if the bucket is full), and may even tip the truck over.

28. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use Soczka to modify Hagenbuch'914. One of ordinary skill in the art would have been motivated to load Hagenbuch'914 FIG 1 dump truck using the careful loading bucket positioning illustrated by Soczka FIG 1 in order to avoid spilling load and avoid damaging equipment through collisions.

29. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hagenbuch'914 in view of Caterpillar Release N149F.

30. Independent claim 2 is a "body of a vehicle for hauling material" claim with 6 limitations, labeled (a) through (f) by the Applicant.

31. **"(a) determining the desired load distribution of weight on a chassis of the haulage vehicle"** is disclosed by Hagenbuch '914 at FIG 14A Step 2 "Calculate correct load placement center of gravity".

32. **"(b) determining the desired volumetric capacity for the body"** is disclosed by Hagenbuch '914 at FIG 14B Step 8c "Dose (sic) trial load volume match maximum desired load...?"

33. **"(c) establishing a line for a floor, a line for a front wall of the body and an inside body width"** is disclosed by Hagenbuch '914 at FIG 9A "body floor line", FIG 9B "front slope line", and FIG 10A "inside body width".

34. **"(e) adjusting a set of design parameters of the body until the three dimensional model distribution of weight on the chassis is substantially similar to the desired distribution of weight on the chassis and the volumetric capacity of the body is substantially similar to the desired volumetric capacity, including curving a rear edge of the floor to correspond with rear corner voids in the three-dimensional model"** is disclosed by Hagenbuch '914 at FIG 14B Step 8c "Dose (sic) trial load volume match maximum desired load...?"

35. **“(f) producing the body in accordance with the set of design parameters”** is disclosed by Hagenbuch '914 at FIG 14B Step 9 **“DESIGN COMPLETED”**.

36. Hagenbuch'914 does not expressly disclose the additional limitation.

37. **“(d) developing a three dimensional model of the hauled material carried in the body, including modeling corner voids of the hauled material, using data collected from an anticipated point of use with the three dimensional model of the hauled material having a distribution of weight on the chassis”** is disclosed by Caterpillar Inc., Product Division, Field Representative Information Release, N149F **“769 Series B Truck,”** 08/24/66, Page 6 first full paragraph **“While field weight distribution will vary, depending upon loading techniques and material characteristics, continuous analysis of actual weight studies, indicates normal load shapes are actually closer to a 1.7:1 heaped load pattern. Caterpillar has thus adopted the 1.7:1 heaped load shape to calculate published figures for the 769B”**.

38. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use Caterpillar Release N149F to modify Hagenbuch'914. One of ordinary skill in the art would have been motivated to design Hagenbuch'914 FIG 1 dump truck body using Caterpillar Release N149F **“field weight distribution”** in order to accurately model and calculate the load placement and center of gravity.

Additional Cited Prior Art

39. The following US patents or publications are hereby cited as prior art, but have not been used for rejection. Applicant should review these carefully before responding to this office action.

40. US Patent 5,404,661 discloses determining the location and orientation of a loading bucket in three dimensional space.

Conclusion

41. All pending claims stand rejected.

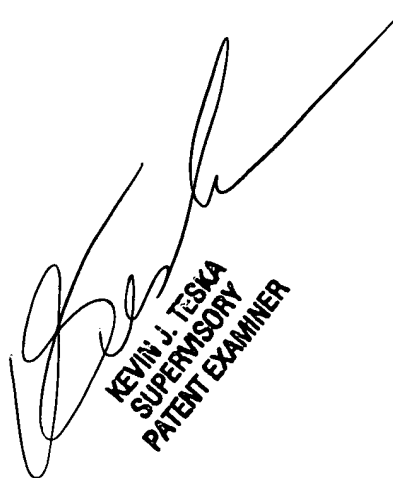
Communication

42. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eduardo Garcia-Otero whose telephone number is 703-305-0857. The examiner can normally be reached on Tuesday through Friday from 9:00 AM to 8:00 PM. If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's

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supervisor, Kevin Teska, can be reached at (703) 305-9704. The fax phone number for this group is 703-872-9306. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist, whose telephone number is (703) 305-3900.

* * * *



KEVIN J. TESKA
SUPERVISORY
PATENT EXAMINER